

Western Electric Co., Incorporated,  
Engineering Dept.,  
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METHOD OF OPERATION  
TRUNK CIRCUIT

Tie Line Automatic - Special Chief Operator's Desk - Machine Switching System

GENERAL DESCRIPTION

1. This circuit is used as a two way automatic tie line to handle calls between desks. It is arranged for use at two positions.

2. To originate a call, the talking key is operated, lighting the line lamp at the other end of the tie line. The call is answered by the operation of the talking key at the called desk, which extinguishes the line lamp. When the operator desires to hold the connection, the holding key is operated. This disconnects the operator's telephone circuit from the associated line. When both talking keys are released, the circuit is restored to normal.

DETAILED DESCRIPTION

OPERATION

3. The operation of the talking key connects ground to lead "A", operating a relay in the telephone circuit which bridges the telephone set across leads "T" and "R", and operates the E381 relay through its two windings in series. The operation of this relay connects its inductive winding in series with the winding of the distant E380 relay. The operation of the distant E380 relay lights the line lamp at the called position.

4. The operation of the talking key at the called position operates the distant E381 relay through its two windings in series. The operation of this relay releases the distant E380 relay which in turn extinguishes the line lamp. After its operation, the E381 relay locks under control of the talking key at the distant position and the distant E381 relay locks under control of the talking key at the local desk. This prevents either line lamp from re-lighting if one listening key is restored to normal before the other.

5. The operation of the holding key connects ground to the winding of the E381 relay and also connects ground to lead "B", operating a relay in the telephone circuit. The operation of this relay disconnects the operator's receiver from the monitoring circuit to which it is normally connected when a trunk listening key is not operated.

6. The circuit is restored to normal only after both listening keys are released.



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CIRCUIT REQUIREMENTS

	<u>OPERATE</u>	<u>NON-OPERATE</u>	<u>RELEASE</u>
E380	Test .0095 amp. Readj. .009 amp.		Test .0009 amp. Readj. .001 amp.
E381	Test .017 amp. Readj. 011 amp.	Test .0065 amp. Readj..007 amp.	

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CHK'D.--FAB

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